

Attorney Docket No.: KUZ-0018
Inventors: Yasukochi et al.
Serial No.: 10/502,412
Filing Date: July 23, 2004
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This listing of the claims will replace all prior versions and listings of claims in the application:

Listing of the claims:

Claim 1-4 (canceled)

Claim 5 (previously presented): The production process according to Claim 27 or 28, wherein the crosslinking functional group is a hydroxyl group, and the crosslinking agent is boric acid.

Claim 6 (canceled)

Claim 7 (previously presented): A medical patch comprising a pressure-sensitive adhesive shaped product produced by the process according to Claim 27 or 28.

Claim 8-9 (canceled)

Claim 10 (previously presented): The production process according to claim 27, wherein the crosslinking is carried out at 60°C to 150°C.

Claim 11 (previously presented): The production process according to claim 10, wherein the crosslinking is carried out at 100°C to 150°C.

Claim 12 (previously presented): The production process according to claim 27, wherein the crosslinking is carried out for approximately 15 minutes to one hour.

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Claims 13-15 (canceled)

Claim 16 (previously presented): The production process according to claim 27 or 28, wherein the crosslinkable monomer unit is selected from hydroxyl group-containing acrylate monomers and hydroxyl-group containing methacrylate monomers.

Claim 17 (previously presented): The production process according to claim 16 wherein the hydroxyl group-containing acrylate monomer is selected from 2-hydroxyethyl acrylate, 3-hydroxypropyl acrylate and 4-hydroxybutyl acrylate.

Claim 18 (previously presented): The production process according to claim 16 wherein the hydroxyl group-containing methacrylate monomer is selected from 2-hydroxyethyl methacrylate, 3-hydroxypropyl methacrylate and 4-hydroxybutyl methacrylate.

Claims 19-20 (canceled)

Claim 21 (previously presented): The production process according to claim 28 wherein the crosslinking is carried out at 60°C to 150°C.

Claim 22 (previously presented): The production process according to claim 21 wherein the crosslinking is carried out at 100°C to 150°C.

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Claim 23 (previously presented): The production process according to claim 28 wherein the crosslinking is carried out for approximately 15 minutes to one hour.

Claim 24-26 (canceled)

Claim 27 (previously presented): A process for the production of a medical patch, said process comprising:

(a) dissolving in a lower alcohol:

(i) one or more drugs; and

(ii) an acrylic copolymer or a methacrylic copolymer comprising one or more crosslinkable acrylic or methacrylic monomer units having at least one hydroxyl group and/or carboxyl group and one or more other monomer units containing at least 2-ethylhexyl acrylate and/or vinylpyrrolidone;

(b) adding to the solution of step (a) one or more crosslinking agents selected from the group consisting of metal alcoholates, boric acid, borate and borate ester;

(c) spreading the mixture of step (b) on a film; and

(d) thermally crosslinking the polymer of (ii) with the one or more crosslinking agents of step (b) either simultaneously with or followed by laminating to a support, collectively thereby to form the medical patch.

Claim 28 (currently amended): A process for the production of a medical patch, said process comprising:

(a) dissolving in a ~~lower alcohol~~ solvent:

(i) one or more drugs; and

(ii) ~~one or more crosslinking agents selected from the group consisting of metal alcoholates, boric acid,~~

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~~borate and borate ester~~ an acrylic copolymer or a methacrylic copolymer having one or more crosslinkable acrylic or methacrylic monomer units having at least one hydroxyl group and/or carboxyl group and one or more other monomer units containing at least 2-ethylhexyl acrylate and/or vinylpyrrolidone;

(b) adding to the solution of step (a) ~~an acrylic copolymer or a methacrylic copolymer having one or more crosslinkable acrylic or methacrylic monomer units having at least one hydroxyl group and/or carboxyl group and one or more other monomer units containing at least 2-ethylhexyl acrylate and/or vinylpyrrolidone to the solution~~ one or more crosslinking agents selected from the group consisting of metal alcoholates, boric acid, borate and borate ester dissolved in a lower alcohol;

(c) spreading the mixture of step (b) on a film; and

(d) thermally crosslinking the polymer of step (b) with the one or more crosslinking agents of (ii) either simultaneously with or followed by laminating to a support, collectively thereby to form the medical patch.

Claim 29 (previously presented): The production process according to claim 27 or 28, wherein the copolymer contains N-vinyl-2-pyrrolidone as a monomer unit.

Claim 30 (previously presented): The production process according to claim 27 or 28, wherein the drug is a hormonal drug selected from estradiol or norethisterone acetate.

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Claim 31 (previously presented): The production process according to claim 27 or 28, wherein the lower alcohol is methanol, ethanol, 1-propanol, 2-propanol or 1-butanol.

Claim 32 (previously presented): The medical patch according to claim 7, wherein the pressure sensitive adhesive shaped product contains substantially no water.

Claim 33 (previously presented): The medical patch according to claim 7, wherein the patch has the pressure-sensitive adhesive power of from 102 gF to 267 gF after storage at 65°C for 48 hours.